

GLOUCESTER COUNTY

Cancer Control and Prevention Capacity and Needs Assessment Report Summary

December 2004

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Notices:

Medicine is an ever-changing science. As new research and data broaden our knowledge, conclusions may change. The authors and reviewers have endeavored to check the sources of information and to utilize sources believed to be the most reliable in an effort to provide information that is as complete as possible at the time of submission and generally in accord with appropriate standards. However, in view of the possibility of human error or changes in medical science, this work cannot be warranted as being complete and accurate in every respect. Readers are encouraged to confirm the information contained herein with other sources. Information concerning some of the sources of data, rationale for its utilization, acknowledgements of specific parties contributing to these efforts, as well as links to cancer-related information may be found at www.umdny.edu/evalcweb/.

This county-level Report Summary summarizes the larger county report, which is a baseline evaluation of this county, performed as part of the Capacity and Needs Assessment initiative of the New Jersey Comprehensive Cancer Control Plan (www.state.nj.us/health/ccp/ccp_plan.htm), under the direction of the New Jersey Department of Health and Senior Services (NJDHSS) Office of Cancer Control and Prevention (OCCP) (www.state.nj.us/health/ccp/), the University of Medicine and Dentistry of New Jersey (UMDNJ) (www.umdny.edu/evalcweb/), and the Evaluation Committee of the Governor's Task Force on Cancer Prevention, Early Detection and Treatment in New Jersey (Task Force Chair: Arnold Baskies, MD; Evaluation Committee Chair: Stanley H. Weiss, MD).

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Gloucester County Cancer Capacity and Needs Assessment Report Summary

Introduction

The Office of Cancer Control and Prevention (OCCP) of the New Jersey Department of Health and Senior Services (NJDHSS), in conjunction with the mandate from the Governor's Task Force on Cancer Prevention, Early Detection and Treatment in New Jersey (Task Force), is developing comprehensive capacity and needs assessment reports concerning cancer, individualized for each county in the state. This Report Summary highlights key findings in the Gloucester County report.¹

The Task Force released New Jersey's Comprehensive Cancer Control Plan (NJ-CCCP) in 2002.² Each county was commissioned to develop a comprehensive capacity and needs assessment report, as part of the initial implementation steps for the NJ-CCCP. The full Report and this Report Summary were developed under the direction of the University of Medicine and Dentistry of New Jersey (UMDNJ) and the Evaluation Committee of the Task Force, in furtherance of the NJ-CCCP (which can be found at: http://www.state.nj.us/health/ccp/ccp_plan.htm). This particular assessment was funded by the OCCP and conducted under the contract and direction of the New Jersey Cancer Education and Early Detection (NJCEED) program in Gloucester County located at Underwood-Memorial Hospital in Woodbury, New Jersey.

The purpose of the capacity and needs assessment reports is to identify the major cancer issues affecting each county and the county's available resources, or lack thereof, for cancer prevention, screening, and treatment, and to propose recommendations for improvement. The Gloucester County Report¹ analyzes the population demographics and the cancer incidence and mortality rates and distribution of stage at diagnosis for the seven priority cancers of the NJ-CCCP (prostate, breast, cervical, lung, colorectal, melanoma, and oral), as well as current resources available, in the county. These data guided the development of evidence-based recommendations and interventions to address cancer priorities at local and state levels. In addition, there is a description of the capacity of the Gloucester County healthcare system, other supportive organizations and groups who strive to meet the needs for addressing cancer, the "most important health issue" of New Jersey residents.

Method of Preparing the Gloucester County Cancer Capacity and Needs Assessment

In April 2003, the Gloucester County NJCEED program director contracted with an independent consultant to function as the County Evaluator (CE) for this project. The CE would be responsible for conducting the evaluation and analysis as well as preparing the report. The year has included regular meetings of the County Evaluators at the state level for training, guidance, peer-learning, and peer-review of the county reports. During the past six months, the consultant has been responsive to requests from the Gloucester County NJCEED Outreach Coalition, the South Jersey Cancer Coalition of ACS, and the newly established Gloucester County Cancer

Control Coalition to report on preliminary findings, seek feedback, and provide suggestions regarding recommendations for future steps to be taken. From August 2003 through March 8, 2004, primary information has been collected through a Cancer Resources Database of New Jersey (CRDNJ) process, described below in Section 2, involving 114 participants from organizations, institutions, programs, and various services for cancer care. The CRDNJ database process is an effort to assess the capacity of county agencies and healthcare providers to meet the needs for cancer care.

Reducing the Cancer Burden

The goal of NJ-CCCP is to reduce the burden of cancer for all New Jersey residents. Many types or forms of cancer can be prevented. It is important to provide the state's residents with the information they need to avoid risky behaviors that increase their chances of developing cancer. Other cancers can be detected early and treated, controlled, or cured. Data about these kinds of cancer and the potential to survive them once detected must be disseminated broadly. Access to high-quality cancer screening and state-of-the-art treatment must be available. Finally, even for cancers for which a cure has not been found, there are certain life-prolonging, life-enhancing, and palliative care measures including pain control to which residents deserve access. These are the aims of the NJ-CCCP and will, once achieved, reduce the burden of cancer in Gloucester County.

Section 1 – County Demographic Profile

Gloucester County is located in the southern third of the state and is an important gateway from the Philadelphia area to South Jersey. Its northwestern boundary is the Delaware River, with Camden County to the northeast and Salem County to the southwest. The county had a population of 254,673 as of April 2000, which represents 3% of the state population.¹⁷ There are 24 municipalities in the county, with the largest municipality being Washington Township (population 47,114), and the smallest township Newfield Borough (population 1,616).¹⁷ Highlights of Gloucester County demographics are presented below.¹⁷

- The five largest municipalities – i.e., population greater than 19,000 – are Washington Township (47,114), Monroe Township (28,967), Deptford Township (26,763), West Deptford Township (19,368), and Glassboro Borough (19,068).
- There are 5 municipalities with significantly higher percentages of black and Hispanic^a residents compared to overall county percentages: Swedesboro, Paulsboro, Woodbury City, Clayton, and Glassboro (Table 1).

^a Hispanics and non-Hispanics may be of any race. Racial categories include both Hispanics and non-Hispanics.

Table 1. Municipalities with High Percentages of Black and Hispanic Residents

	Percentage of Population that is Black^b	Percentage of Population that is Hispanic
Gloucester County	9.1%	2.6%
Swedesboro	16%	8.5%
Paulsboro	32%	4.4%
Woodbury City	23%	3.9%
Clayton	16%	3.3%
Glassboro	19%	3.8%

- The Asian population of Gloucester County is 1.5% (n=3,805). Asian residents are more highly concentrated in Washington Township, where they constitute 3.3% (n=1,558) of the population.
- Persons 65 years of age and older represent 12% of the population of Gloucester County and 13% of the population of New Jersey.
- A smaller percentage of Gloucester County families live below poverty level (4.3%) when compared to New Jersey (6.3%).^c The median income for Gloucester County households is \$54,273, which is 1.6% lower than the state median income of \$55,146.
- Nine municipalities have a higher percentage of residents living below the poverty line when compared to the county overall (6.2%). The municipality with the highest percentage of residents living below poverty level is Paulsboro (18%), followed by Glassboro (15%), Woodbury City (13%), Swedesboro (9.7%), Westville (8.7%), Elk (8.5%), South Harrison (8.0%), National Park (7.6%), and Newfield (6.5%).
- Households speaking Spanish as first language are 5,324 or 2.2% of the county. One percent (1.0%) of the county's households speak an Asian or Pacific Island language in the home.
- There are over 90,755 households in Gloucester County. Of these households, 256 (2.8%) are designated as linguistically isolated.^d These linguistically isolated households and other populations affected by language barriers are located in 13 municipalities in the county, namely Deptford Township, Elk Township, Franklin Township, Glassboro Borough, Logan Township, Monroe Township, Paulsboro Borough, Pitman Borough, Swedesboro Borough, Washington Township, West Deptford Township, Westville Borough, and Woodbury City.

^b In general, percentages in this report are rounded to two digits.

^c All figures for poverty, income, and employment are from the 2000 Census, but refer to the year 1999.

^d A linguistically isolated household is one in which no member 14 years old and over (1) speaks only English or (2) speaks a non-English language and speaks English "very well". In other words, all members 14 years old and over have at least some difficulty with English.

Section 2 – Overview of Overarching Issues

Gloucester County does not have a comprehensive plan for implementing relevant strategies in the NJ-CCCP as identified by this capacity and needs assessment, although a number of active coalitions exist whose efforts could be built upon. These include the Gloucester County NJCEED Coalition, the South Jersey Cancer Coalition of the American Cancer Society, and the Friends and Neighbors (FAN) Coalition based at Underwood Hospital.

Detailed information regarding cancer screening, education, advocacy, treatment, palliation, and other activities has been collected to identify resources currently available in Gloucester County. This information was included in the statewide Cancer Resource Database of New Jersey (CRDNJ).³ Some 114 agencies, organizations, healthcare institutions, schools, and health programs participated in the 2003–2004 CRDNJ survey in Gloucester County.³ (See Appendix G of the main report for a full list of participants.) Thirty different activities were identified reaching all ages, races, genders, and ethnic groups. Fifty-six healthcare providers shared information about their services and programs including education; screening activities; early detection, diagnosis, and treatment; and care for cancer patients and their families. The overarching issues of the NJ-CCCP as they apply to Gloucester County are addressed in chapters on Access and Resources, Comprehensive School Health Education, Providers and Treatment, Advocacy, Palliative Care, Nutrition and Physical Activities, and Childhood Cancer.

A summary of participants in the CRDNJ process is provided below. Healthcare providers are represented by any group that has Gloucester County as a service area. For example, there are four hospitals in the database for Gloucester County, two of which are located in neighboring counties but serve Gloucester County residents. Hospices and radiology providers have multiple counties in their service areas as well.

The types of services designated by an asterisk (*), namely, hospitals, palliative care providers, radiation and chemotherapy providers, radiology services, and oncology services, represent 100% of providers in the county for that service.

Table 2. Summary of Respondents to 2003–2004 CRDNJ Survey in Gloucester County

Facility or Activity Type	Total Number of CRDNJ Forms Received
Total	114
American Cancer Society Activities (not located in Gloucester County)	14
Other Activities	
Located in Gloucester County	2
Located outside Gloucester County	1
Breast Oncologist (not located in Gloucester County)	1
Cancer Center	
Located in Gloucester County	1
Located outside Gloucester County	1
Free Standing Clinics	
Located in Gloucester County	2
Located outside Gloucester County	1
Dentist	0
Dermatologist (not located in Gloucester County)	3
Employer	2
Faith-Based Organization	2
Gastroenterologist	1
Gynecology Oncologist	1
Health Department	1
Hematology/Oncology*	
Located in Gloucester County	1
Located outside Gloucester County	1
Hospital*	
Located in Gloucester County	2
Located outside Gloucester County	2
Non-Profit	1
Obstetrician/Gynecologist (not located in Gloucester County)	1
Palliative Care* (not located Gloucester County)	10
Program of Palliative Care Program	9
Primary Care Provider	
Located in Gloucester County	4
Located outside Gloucester County	3
Pediatric Oncology (not located in Gloucester County)	1
Quit Center	1
Radiation and Chemotherapy*	
Located in Gloucester County	2
Located outside Gloucester County	1
Radiology*	
Located in Gloucester County	8
Located outside Gloucester County	3
School	24
Screening Program	1
Surgery Center (not located in Gloucester County)	3
Ultrasound	1
Urologist	
Located in Gloucester County	1
Located outside Gloucester County	1

Source: CRDNJ, June 10, 2003

* indicates 100% provider participation in CRDNJ process

One notable resource is the American Cancer Society, a nationwide, community-based voluntary health organization dedicated to helping everyone who faces cancer through research, patient services, early detection, treatment, and education, which maintains a website and a national call center^c (1-800-ACS-2345 ext. 1).⁴ Patients and others can obtain referrals to local cancer resources as well as to a local “patient and family services director/coordinator” who may be able to serve as a “patient navigator.”

There is an under-representation of cancer prevention and awareness activities in the county because not all respondents completed Activity Forms in this CRDNJ process for their outreach programs, such as education and support groups for patients and for families. The CRDNJ process for collecting cancer resource information at the county level needs to be continued, expanded, and updated in an ongoing manner. In Gloucester County only 30 Activity Forms were received, and these do not explore the depth of cancer-related activities in the county (14 of these forms were submitted by one organization). There were 56 Healthcare forms submitted, with the majority of respondents not reporting on any types of activities and programs. Still, through those who did participate in the CRDNJ Activity form responses, we were able to identify a wide diversity of services and programs for cancer care.

Section 2 of the Gloucester County Cancer Capacity and Needs Assessment report contains subsections for each of the seven prioritized cancers of the NJ-CCCP. Information from the key informant interviews on cancer services and programs is presented in the subsections on “Programs and Resources” and “Opportunities to Increase/Impact Program Delivery.”

Gaps that have been identified through this cancer capacity assessment include the following:

- There is a ten-year gap since the last assessment of cancer prevention, screening, and early detection services as perceived by residents. The last countywide general health needs assessment was done by Health Visions, Inc., in 1993 (Southwestern New Jersey study).⁵. This 1993 survey included screening services for cancer as well as the perceptions of residents on prevention and health promotion issues related to cancer.
- The Gloucester County NJCEED program reaches out to men and women who are uninsured or underinsured for healthcare and have incomes below 250% of poverty level. However, the NJCEED funding sources – both federal and state – cover only 18% of this eligible population for breast and cervical cancer screening.
- A total of only 24 schools among the county’s 82 public schools (including 16 high schools) and 30 private high schools participated in the 2003 CRDNJ process to estimate capacity for teaching prevention and early detection of cancer. All six high schools and one middle school that participated in the data collection teach the skills of breast self-exam for girls and testicular self-exam for boys. These skills for early screening for breast cancer and testicular cancer are appropriate and recommended in the curriculum standards.

^c The national call center takes 1.2 million calls per year. See http://www.cancer.org/docroot/ESN/content/ESN_3_1X_ACS_National_Cancer_Information_Center.asp?sitearea=ESN (accessed 9/22/2004).

Section 3 – Cancer Burden

All incidence⁶ and mortality⁷ rates cited herein are per 100,000 and age-adjusted to the 2000 U.S. population standard.⁸ All county and state rates are average annual rates during 1996–2000. For simplicity, the 1996–2000 average annual age-adjusted incidence or mortality rate hereinafter will be abbreviated and referred to as incidence or mortality rate, respectively. The reason the five-year average has been routinely used is that the small number of cases in a single year leads to statistical variations that are not generally meaningful. For U.S. incidence rates, 1999 or 2000 rates were used. Unless otherwise specified, all rates are for invasive cancer only.

Cancer was the second leading cause of death in New Jersey and in Gloucester County⁹ in 2000. An average of 527 deaths per year due to cancer occurred in Gloucester County during the years from 1996 through 2000.⁷

Incidence Rates for All Cancer Sites Combined

The age-adjusted incidence rates for all cancers for males and females in Gloucester County for the period 1996–2000 were 620.8 and 461.9 new cases of cancer per 100,000 respectively, which were very close to the state rates (628.7 and 453.7 for males and females, respectively).⁶ For all ages and all cancer sites combined, the age-adjusted incidence rate for males was over one-third higher than that for females, both in Gloucester County and in New Jersey.

In Gloucester County, among groups for which separate data were available, Hispanics had the highest incidence rates for all cancer sites, although Hispanic men and women in Gloucester County had fewer than 100 cancers during this five-year period, which makes the calculation of rates less stable.^f These calculated rates were nonetheless higher in comparison to the Hispanic ethnic group in New Jersey as a whole, and thus merit further assessment by the county.^g Undercounts of Hispanics in the census might partially explain their apparently high incidence rate. Statewide, black males had substantially higher incidence rates than white males, while black females had lower incidence rates than white females; these patterns hold true in Gloucester County as well.

^f Hispanics and non-Hispanics may be of any race. Racial categories include both Hispanics and non-Hispanics. Some tables include summaries for white and black race and for Hispanic ethnicity. Data on non-Hispanics are not available. Comparisons of Hispanic rates with rates for the whole population may underestimate the difference between Hispanics and non-Hispanics because Hispanics are included in the total population. Further, the relatively small numbers of Hispanics in Gloucester County can lead to unstable calculations of rates.

^g Other minority groups raise special issues as well, related to culture, language, and access to care. Although there are concerns that minorities bear disproportionate portions of the cancer burden, their limited numbers lead to their omission from many sources of statistical data. Thus, precise numbers and rates are not readily available and are not portrayed explicitly.

Table 3. Incidence Rates per 100,000 for All Cancer Sites and All Ages, 1996–2000⁶ in Gloucester County and New Jersey by Gender, Race and Ethnicity

	White	Black	All Races	Hispanic Ethnicity
Gloucester County (n=6,142)				
Males	611.8 (n=2,756)	709.6 (n=290)	620.8 (n=3,091)	853.3 (n=47)
Females	470.5 (n=2,794)	395.1 (n=228)	461.9 (n=3,051)	571.3 (n=36)
New Jersey (n=223,156)				
Males	625.2 (n=98,528)	716.5 (n=12,613)	628.7 (n=113,946)	539.1 (n=6,046)
Females	464.9 (n=95,598)	414.2 (n=10,820)	453.7 (n=109,210)	363.8 (n=6,056)

The seven priority cancers from the NJ-CCCP accounted for 63% (n=1,961) of new cancer cases in men in Gloucester County and 62% (n=1,901) of new cancer cases in women in the county, namely prostate cancer in men, breast cancer in women, lung cancer, colorectal cancer, cervical cancer in women, oral cancer, and melanoma skin cancer.

Highlights of Gloucester County incidence rates for the seven priority cancers of the NJ-CCCP during the 1996–2000 period, with rates per 100,000 age-adjusted to the 2000 population, are presented below.

- The top four Gloucester County cancer incidence rates for all ages were prostate cancer in men at 160.7 per 100,000; breast cancer in women at 137.0 per 100,000; lung cancer in men at 117.2 per 100,000 and in women at 66.2 per 100,000; and colorectal cancer in men at 85.2 per 100,000 and in women at 59.7 per 100,000. These four cancers accounted for 58% (n=1,786) of all new cancer cases for men in Gloucester County and 57% (n=1,735) of all new cancer cases for women in the county.
- Incidence rates for cancer nationally increase dramatically with age. All seven priority cancers detailed in the NJ-CCCP also show this pattern of increasing cancer incidence rates with age, both statewide and in Gloucester County. The top two cancers are presented as examples. In Gloucester County, the prostate cancer incidence rate for men aged 50–64 was 334.1 per 100,000 and increased for men aged 75+ years to 765.5 per 100,000. The breast cancer incidence rate for women aged 40–49 was 150.6 per 100,000, and increased for women aged 75+ years to 478.0 per 100,000.
- The county incidence rates for men and for women of Hispanic ethnicity for all cancer sites were higher than the corresponding rates for all men and for all women in Gloucester County. These incidence rates were based on fewer than 100 cases of cancer for the total Hispanic subgroup over the five-year period. The cancer incidence rate for Gloucester County residents of Hispanic ethnicity in Gloucester is higher than the corresponding state rate and needs to be further studied. Analyses of differences in incidence rates of individual cancers, different age compositions of the Hispanic and non-Hispanic population, and the possibility that Hispanics have been undercounted in the census, may all improve understanding of this disparity.

Mortality Rates for All Cancer Sites Combined

The mortality rate in Gloucester County for all cancer sites combined was 10% higher for males of all races and 7.5% higher for females of all races than the corresponding state rates (Table 4). Gloucester County had the highest mortality rate and the 3rd highest mortality rate for males and females, respectively, out of New Jersey's 21 counties for all cancer sites combined.⁷

Disparities in the cancer mortality rate between blacks and whites are apparent when mortality rates for all cancer sites are compared. For all cancer sites and all ages, black males had the highest mortality rates of all racial subgroups in the county for which separate data are available.

Table 4. Mortality Rates per 100,000 for All Cancer Sites and All Ages, 1996–2000 in Gloucester County by Race and Ethnicity⁷

		White	Black	All Races	Hispanic Ethnicity
Gloucester County	All	228.6	264.6	230.2	118.5
	Males	286.1	347.1	288.3	*
	Females	195.0	216.7	195.3	*
New Jersey	All	209.9	257.1	211.7	114.7
	Males	245.6	348.7	261.1	161.3
	Females	179.5	196.7	181.6	99.5

All rates are age-adjusted to 2000 U.S. Census population standards and are average annual rates during the period from 1996 through 2000.

* Statistic not displayed due to fewer than 5 cases

Prevalence of Cancer

Prevalence gives an estimate of the number of people who are alive at a point in time after having been diagnosed with cancer. Including all cancer sites, Gloucester County has an estimated 8,822 cancer survivors, which represents 3.5% of the county population, with 39% of these men and 61% women.¹⁰

Summary of the Seven Priority Cancers of the NJ-CCCP in Gloucester County

Table 5 summarizes the prevalence, the incidence rate, and the mortality rate for all seven priority cancers of the NJ-CCCP in Gloucester County. The county incidence rate of lung cancer for both males and females were at least 10% higher than the corresponding state rates. Cancers for which county mortality rates were at least 10% higher than state rates include: all cancers combined (male), colorectal (female), lung (male and female), and melanoma (male).

Table 5. Summary Table
Selected^a Age-Adjusted^b Gloucester County Cancer Statistics, 1996–2000^c

	Estimated Prevalence^d	Incidence per 100,000^e	Mortality per 100,000^e
All Cancers,^f Gloucester County			
Male	3,439	620.8	288.3
Female	5,383	461.9	195.3
NJ-CCCP Priority Cancer by Gender			
Breast, female	2,055	137.1	27.0
Cervical, female	227	10.1	2.8
Colorectal, male	443	85.2	28.2
Colorectal, female	619	59.7	25.6
Lung, male	159	117.2	95.3
Lung, female	192	66.2	48.8
Melanoma, male	198	17.9	6.2
Melanoma, female	216	9.9	1.5
Oral/Oropharyngeal, male	102	14.1	3.1
Oral/Oropharyngeal, female	57	5.0	0.9
Prostate, male	1,198	161.1	29.3

^a Based upon the NJ-CCCP.

^b Age-adjusted to 2000 US Census population standards. Age-adjustment is used to describe rates in which statistical procedures have been applied to remove the effect of differences in composition (specifically, variations in age distribution) of the various populations. This is important in order to portray an accurate picture of the burden of cancer, since cancer is known to disproportionately affect persons of differing ages.

^c Rates are average annual rates during the time period 1996 through 2000.

^d Prevalence is the measurement of burden of disease in the population at a particular point in time. Within this report, it represents the number of people alive who have ever been diagnosed with the disease. Prevalence figures given here are rough theoretical estimates, based on a number of assumptions, and computed by applying national prevalence-to-incidence ratios to Gloucester county's average annual crude incidence counts for the five years 1996–2000, separately for each gender. Actual prevalence is likely to be of the same order of magnitude as the estimate.¹⁰

^e Incidence and mortality are gender-specific, age-adjusted annual rates, not counts. A rate at least 10% higher than the corresponding State rate is shown in bold italics.

^f “All cancers” represents the sum of all invasive cancer during the time period, not just the seven cancers below.

Top Cancers in Gloucester County: Prostate, Breast, Lung, and Colorectal Cancers

For men in Gloucester County, prostate cancer had the highest age-adjusted incidence rate, followed by lung cancer and colorectal cancer. For women in Gloucester County, breast cancer had the highest age-adjusted incidence rate, followed by lung cancer and colorectal cancer. Male rates of cancer incidence and cancer mortality in Gloucester County were higher than the corresponding rates for females.

Table 6. Three Most Common Cancer Diagnoses in Men in Gloucester County, 1996–2000

	Prostate Cancer			Lung Cancer		Colorectal Cancer		
	Incidence Rate ⁶	Percent Diagnosed at Regional/Distant Stage ⁶	Death Rate ⁷	Incidence Rate ⁶	Death Rate ⁷	Incidence Rate ⁶	Percent Diagnosed at Regional/Distant Stage ⁶	Death Rate ⁷
Total Men	161.1	13.5%	29.3	117.2	95.3	85.2	47.1%	28.2
White	147.4	13.1%	26.1	117.1	95.3	88.1	46.8%	28.0
Black	290.9	16.0%	70.3	128.0	105.2	60.5	50.0%	*
Hispanic	262.4	16.7%	*	82.7	*	*	33.3%	*

Rates are per 100,000 population and are age-adjusted to the 2000 U.S. standard population.

* Statistic not displayed due to fewer than 5 cases

Table 7.
Three Most Common Cancer Diagnoses in Women in Gloucester County, 1996–2000

	Breast Cancer			Lung Cancer		Colorectal Cancer		
	Incidence Rate ⁶	Percent Diagnosed at Regional/Distant Stage ⁶	Death Rate ⁷	Incidence Rate ⁶	Death Rate ⁷	Incidence Rate ⁶	Percent diagnosed at Regional/Distant Stage ⁶	Death Rate ⁷
Total Women	137.1	24.6%	27.0	66.2	48.8	59.7	48.2%	25.6
White	138.1	24.9%	25.1	67.4	50.1	60.3	47.9%	24.6
Black	*	25.5%	48.7	60.9	40.2	56.0	55.6%	39.4
Hispanic	*	30.8%	*	*	*	*	0.0%	*

Rates are per 100,000 population and are age-adjusted to the 2000 U.S. standard population.

* Statistic not displayed due to fewer than 5 cases

Tables 6 and 7 also demonstrate the disparities in cancer incidence and mortality rates and percentage of cancers diagnosed at the late stage for the top four cancers among different racial and ethnic subpopulations. Lung cancer is generally detected at such late stages of the disease, with poor treatment outcomes, that no staging data are presented.

Cancer Burden by Site

Highlights of all seven priority cancers follow, beginning with the top four cancer sites for Gloucester County.

Prostate Cancer

The 1996–2000 average annual age-adjusted prostate cancer mortality rate for Gloucester County was 29.3 per 100,000, lower than the corresponding state rate (32.9) and similar to the corresponding national rate (30.6). Black males in Gloucester County had a 2.7-fold higher mortality rate (70.2 per 100,000) than white males (26.1 per 100,000). In the state overall, the

mortality rate among black males (68.8 per 100,000) was also much higher than among white males (30.3 per 100,000), and a similar disparity exists nationally.^h

Prostate specific antigen (PSA) blood tests and/or digital rectal exam (DRE) tests are recommended by the American Cancer Society (ACS) for all males at age 50 years who have at least a 10-year life expectancy. The American Urological Association, the American College of Radiology, and the NJ-CCCP recommend annual DRE and PSA screening beginning at age 50 and annual PSA screening beginning at age 40 for black men and men with a family history of prostate cancer. For these high-risk groups, the ACS recommends earlier screening at age 45.

The population of focus in Gloucester County for prostate cancer comprises the 30,719 men greater than 50 years of age. The burden is greatest among men over age 65 (n=12,026),¹⁷ who thus constitute an important subset of the population of focus. NJCEED offers prostate cancer screening by DRE and by PSA blood tests to persons throughout the county who are uninsured or underinsured and have incomes below 250% of the poverty level.

A special focus on black males is indicated by incidence and mortality statistics. Key informants interviewed for this study spoke at length about black and other men of color who resist prostate screening. Yet these men comprise the population with the highest mortality rates. In Gloucester County, 2,442 black men are over age 50, and 926 are over age 65.¹⁷ Outreach efforts need to focus on men of color to educate them on the health benefits of early detection of prostate cancer.

Breast Cancer

The 1996–2000 average annual age-adjusted breast cancer mortality rate for Gloucester County was 27.0 per 100,000. This is lower than corresponding rates for both New Jersey (31.3) and the United States (27.7). The mortality rates for white and black women were 25.1 and 48.7 respectively, a greater disparity than in the state as a whole (where the rates were 31.1 and 37.2).ⁱ Mortality from breast cancer can be reduced with screening and early detection. In New Jersey, among 3,923 women aged 50 and over who were interviewed from 2000 through 2002, 78% reported having had a mammogram within the past two years.^{11,12} Breast cancer mammography screening rates need to improve if the *Healthy New Jersey 2010* targets are to be reached in Gloucester County.¹³ The target is to reach 75% of women aged 40 and over having had a clinical breast exam and mammogram within the previous two years by 2010, and a preferred endpoint for the same measure of 85%.

^h No deaths were recorded in Gloucester County due to prostate cancer among Hispanics in 1996–2000. Both New Jersey and the United States have lower prostate cancer mortality rates for Hispanic men than for non-Hispanic men.

ⁱ The state mortality rate for Hispanic women was 15.9 per 100,000; with fewer than 5 breast cancer deaths in the 5-year period among Hispanic women in Gloucester County, the county mortality rate of 30.1 among Hispanics is not meaningful.

Colorectal Cancer

Over the time period 1996 through 2000, inclusive, the total number of persons diagnosed with invasive^j colorectal cancer in Gloucester County was 805, comprising 2.9% of the statewide total of colorectal cancers diagnosed in the period. This is the total incidence of new cases over the five-year period. Thus, the annual incidence was 161 cases per year. The colorectal cancer incidence rate was higher among males (85.2 per 100,000) than the rate among females (59.7). Colorectal incidence was higher in Gloucester County than in New Jersey as a whole for both males and females. The colorectal cancer incidence rate (per 100,000) for white females was 60.3 compared to 56.0 for black females in Gloucester County. In addition, the colorectal cancer incidence rate (per 100,000) among white men was 88.1 compared to 60.5 for black men. There were too few cases of colorectal cancer among Hispanics in Gloucester County to permit a meaningful calculation of a rate.

Risk factors associated with colon cancer include age, family history, and personal health history (physical inactivity, low-fiber diet, obesity, and smoking). Early detection is the most effective means of reducing the severity of colon cancer and increasing the likelihood of survival. The Gloucester County NJCEED program provides colorectal screening for populations with incomes at or below 250% of the poverty level who are uninsured or underinsured.

Lung Cancer

Lung cancer is the most common cause of cancer mortality among males and females in New Jersey and in the nation. The 1996–2000 average annual lung cancer mortality rate for Gloucester County, age-adjusted to the 2000 U.S. standard population, was 95.1 per 100,000 for men and 48.8 for women. Black males had the highest incidence rate for lung cancer in the county (see above chart). Estimates indicate that 351 individuals are living with lung cancer in Gloucester County, of whom 159 (45%) are male and 192 (55%) are female. The major risk factor for lung cancer is tobacco smoking, to which 13 out of every 15 cases (nearly 90%) of lung cancer can be attributed.² Exposure to environmental tobacco smoke (ETS), or “second-hand” smoke, remains an additional important issue.²

Lung cancer in women has been a subject of concern, and efforts to reduce smoking particularly among white women are also indicated by this study as white women in Gloucester County had the highest lung cancer incidence rate for women for whom separate data were available. Lung cancer, which was among the top three cancers for this subgroup, was the cancer with the highest cancer mortality rate for white women in Gloucester County.

Cervical Cancer

Black females in Gloucester County had a much higher age-adjusted cervical cancer incidence rate (22.7 per 100,000 population) than did white females in the county (8.9). It will be especially important to focus on black females for educational interventions concerning the importance of having Papanicolaou (“Pap”) tests performed for early screening and detection. It

^j *In situ* cancers are not included in this or other totals.

is equally important to educate all women in Gloucester County, as cervical cancer can be prevented through regular pelvic examination and Pap tests. Women aged 18 and over should receive gynecological exams and Pap tests annually. This population of focus includes 98,611 women in Gloucester County.¹⁷

Pap tests, which detect some precancerous as well cancerous lesions, are covered by most private and public health insurance. Some companies have moved to cover a more sensitive and specific screening test, the AutoPap, which uses a thin preparation of cells along with computer-assisted technology.² Human papillomavirus (HPV), a sexually transmitted disease, is the most significant risk factor for developing cervical cancer; recommendations for the incorporation of HPV testing^k as part of a routine pelvic examination have been developed by the American College of Obstetricians and Gynecologists.^{2,14} Risk factors for cervical cancer include ever being sexually active, lack of routine screening, early onset of sexual intercourse, a history of multiple partners, a history of sexually transmitted infections (especially HPV), obesity, and smoking.

Melanoma of the Skin

Melanoma is more common in whites than in other racial/ethnic subgroups because fair skin is a risk factor. Indeed, in Gloucester County, incidence rate calculations were suppressed for blacks and Hispanics due to fewer than 5 cases being reported over the five-year period 1996–2000.¹⁵

The overall age-adjusted incidence rates for melanoma of the skin in Gloucester County for men (17.9) and for women (9.9) were lower than the corresponding rates for New Jersey males (20.1) and females (11.9). Yet the mortality rates for males (6.2 for all males, 6.6 for white males) were higher than the corresponding rates for New Jersey (4.4 for all males, 4.9 for white males). The overall incidence rate for melanoma among males is higher than the rate among females. A contributory factor for this high male rate may be outdoor employment and long hours of sun exposure.

UV radiation from the sun is the main risk factor for melanoma and all other types of skin cancers.¹⁶ Skin cancer prevention services should be focused on persons who spend long periods of time in the sun including sunbathers, landscapers, and outdoor construction workers. This population should be educated about the dangers of skin cancer and the need to limit sun exposure and use SPF15+ sunscreen.

Oral/Oropharyngeal Cancer

Prevalence estimates show that approximately 159 persons who have ever been diagnosed with oral/oropharyngeal cancer were living in Gloucester County – 102 (64%) men and 57 (36%) women. Gloucester County oral/oropharyngeal cancer incidence rates among males (14.1 per 100,000) and females (5.0 per 100,000) were lower than the corresponding New Jersey rates among males (15.7) and females (6.4).

^k For example, the ViraPap™ will detect which strains of HPV DNA, if any, are present.

Adults who use tobacco and are heavy alcohol drinkers are at greater risk for developing oral cancers. Routine oral cancer screening during dental visits appears to provide the most easily available route to widespread early detection.

The 2002 Behavioral Risk Factor Survey (BRFS) in New Jersey shows that 37% of Hispanics and 33% of blacks did not have a dental visit in the past year compared to 25% of New Jersey residents overall. Only 57% of New Jersey residents with less than a high school education went to the dentist for any reason in the past two years, compared to 84% of college graduates in New Jersey.¹¹

A serious service gap exists in Gloucester County with regard to dental care for the uninsured, according to key informant interviews with the Gloucester County Health Department.³ No clinics in the county to provide routine dental exams to the uninsured. The primary care centers do not offer dental care, and therefore screenings for oral cancer are not routinely provided. There are no Federally Qualified Health Centers (for either health or dental care) in Gloucester County.

Characteristics of the Populations of Focus for Reducing Cancer Burden

1. Increasing age is marked by increasing cancer incidence and mortality rates and other health concerns. The senior population aged 65 and older represents 12% (29,678) of the total Gloucester County population (41% male and 59% female), similar to New Jersey's senior population aged 65 and older, which represents 13% (1,113,136) of the state's total population.¹⁷ The two municipalities with the highest population of seniors aged 65 and older (male and female combined) are Deptford Township (15%) and Monroe Township (13%). These areas are significant because of the amount of healthcare resources utilized by the elderly at present.
2. Some of the highest incidence rates of cancer are found among blacks, who constitute 9.1% of Gloucester County's population. Specific cancers of concern for blacks are: prostate cancer in males (incidence rate of 290.9), male lung cancer (incidence rate of 128.0 and mortality rate of 105.2), and cervical cancer in women (incidence rate of 22.7). Incidence and mortality rates for these cancers are higher among black residents than among white residents of Gloucester County.
3. Whites have the largest actual number of new cases of all cancers combined when compared with other populations as they are 87% of Gloucester County population.

Table 8.
Average Annual Number of New Cancers in Gloucester County by Race, 1996–2000⁶

	White	Black	Other Races	All
Male	551	58	9	618
Female	559	46	6	610
Total	1,110	104	15	1,228

Numbers may not add up due to rounding.

Analysis of the Causes of Cancer Burden

1. Gloucester County's assessment of medically underserved populations, defined by a National Cancer Institute Health Consumer Profile¹⁸ methodology¹, identified 14 different marketing groups to be targeted with specific strategies. The following summary gives the different populations judged to be in need screening and treatment services:
 - Total Population of Medically Underserved by NCI criteria estimated to be 68,462 (27% of the Gloucester County population), of which 27,082 (40%) are in just one of the identified marketing strategy groups
 - Females = 35,634 18+ = 26,623 (20% of county females)
 - Males = 32,828 18+ = 23,398 (19% of county males)
 - Women aged 40+ in Need of Screening for Breast and Cervical Cancer = 16,091, found in all 14 marketing strategy groups.
 - Total Population in Need of Smoking Cessation Programs = 28,367, found in 11 out of 14 marketing strategy groups.
 - Females 18+ = 15,421
 - Males 18+ = 12,946
 - Total Medically Underserved Population in Need of Colorectal Cancer Screening = 16,287, found in 10 out of 14 marketing groups.
 - Females 50+ = 9,070
 - Males 50+ = 7,217
 - Men Aged 50+ in Need of Prostate Cancer Screening = 7,217, found in 10 out of the 14 marketing groups.
2. Healthcare disparities are demonstrated by higher cancer incidence rates for all cancers among black males than among white males, and especially by higher mortality rates among blacks of both genders than among whites, even though black women have lower incidence rates than white women.
3. Lack of health insurance, low incomes, and multiple socioeconomic barriers to accessing healthcare are all factors that can delay or prevent appropriate cancer screening and treatment. The Behavioral Risk Factor Surveillance System (BRFSS) reports that an estimated 13% of adults in New Jersey did not have health insurance in 2002. Applying this percentage in Gloucester County would suggest that 24,381 adults in the county lack such insurance.¹¹

¹ Consumer Health Profile maps of each New Jersey county were provided in June 2003 to the NJDHSS and UMDNJ and each county by the National Cancer Institute's Atlantic Region Cancer Information Service, along with ongoing technical support. (More information can be obtained from: 1-800-4-CANCER.) The medically underserved refers to individuals who lack access to primary care either because they are socioeconomically disadvantaged and may or may not live in areas with high poverty rates or because they reside in rural areas. The term also refers to individuals that reside in geographic areas where the Index of Medical Underservice (IMU) is 62 or less. The IMU is a weighted score derived from four variables: the ratio of primary medical care physicians per 1,000 population, infant mortality rate, percentage of population below the federal poverty level, and the percentage of the population aged 65 years and older. The data categorize the U.S. population into 62 groups based upon characteristics such as geography, demographics, lifestyle, and socioeconomic status. Within these 62 groups, 30 are classified as medically underserved.

4. Partial funding of the NJCEED Program limits the number of patients it can serve. NJCEED is permitted to meet the needs of Gloucester County residents for cancer screening of the top four cancers for those New Jersey residents who have incomes at or below 250% of the poverty level and who are uninsured or underinsured, but funding levels are not sufficient to serve that whole population.

Section 4 – Recommendations

The overall general recommendation is that Gloucester County cancer coalitions, programs, and healthcare providers follow the NJ-CCCP goals, objectives, and strategies insofar as possible in their implementation of activities and services for cancer care. A condensed version of the NJ-CCCP is included in the full Capacity and Needs Assessment of Gloucester County in Appendix N.

County/local-level and statewide priorities are recommended for the top four cancers and referenced to the relevant NJ-CCCP goals (e.g., BR-1), objectives (e.g., BR-1.1), or strategies (e.g., BR-1.1.1), using the following codes: Prostate Cancer (PR), Breast Cancer (BR), Lung Cancer (LU), and Colorectal Cancer (CO). Also referenced are the NJ-CCCP goals with respect to overarching issues, including Access and Resources (AC), Palliation (PA), Nutrition and Physical Activity (NP), Advocacy (AD), emerging trends (ET), and implementation (IM).

The NJ-CCCP has four basic guiding steps for the Gloucester County implementation:

- Increasing cancer awareness and education for prevention: BR-1.2, CO-1.1, LU-1.1, and PR-1.1, AC-2.1.
- Expanding education to increase outreach efforts for cancer screening, early detection, and treatment: BR-1.1, BR-1.3, BR-1.4, BR-3.1-2, CO-1.2, CO-1.3, LU-2.1-2, LU-4.1, PR-2.1, PR-2.2, PR-4.1, AC-2.1, AC-4.2, AC-4.3, PA-1.1.
- Supporting efforts for holistic and comprehensive cancer treatment: BR-2.1, BR-2.2, BR-5.1, CO-2.1, CO-3.1-2, LU-3.1, PR-3.1, PR-5.2, AC-1.1-2, NP-3.1-2, AC-4.1, AD-3.1, PA-2.1-4.
- Addressing issues within the health system that are implicated in the reasons for health disparities: BR-4.1-2, CO-2.1, LU goals 4-6, PR-5.1, PR-5.3, AD-3.1, AC-1.1, AC-1.2, AC-3.1, AC-4.1-3.

Recommendations for Local and County Priorities:

Recommendations to existing Gloucester County health coalitions and health institutions to implement the NJ-CCCP in the county with special attention to the following:

Prevention of Cancer

- *Physical activity.* Join with other health care coalitions that promote the benefits of exercise and increased physical activity and advocate promotion of decreasing cancer risks as an added benefit; target multi-media campaigns to include the cancer message

along with general health benefits of exercise; initiate information sharing with health educators in the public and private sector. (NP-1.3, NP-2.1, NP-2.2)

- *Smoking cessation programs.* Target the zip codes identified in the NCI Consumer Health Profile¹⁸ maps; advocate for Clean Indoor Air and legislation prohibiting smoking in indoor public places; increase the involvement of primary care providers in smoking cessation programs; place special focus on those under 18 years of age. (LU-1.1)
- *Preventive anti-tobacco campaigns (youth programs to not start to smoke).* Target the zip codes identified in the NCI Consumer Health Profile maps; school health programs and Parent Teachers Associations should be part of the campaign. (LU-1.1)
- *Increase consumption of fruits and vegetables.* Join with other health care coalitions that promote the health benefits of increasing fruit and vegetable consumption in the diet and advocate promotion of decreasing cancer risk as an added health benefit. (NP-1.1-2, NP-2.1-2)

Cancer Screening

Screening for breast cancer in women, prostate cancer in men, and colorectal cancer (BR-1.1, BR-1.3-4, BR-3.1-2, CO-1.2-3, LU-2.1-2, LU-4.1, PR-2.1-2, PR-4.1, AC-2.1, AC-4.2-3).

- Target the five municipalities with higher percentages of black and Hispanic populations – Paulsboro, Woodbury, Glassboro, Swedesboro, and Clayton – to increase screening for breast, cervical, colorectal, and prostate cancers using the *Healthy New Jersey 2010* objectives and targets.
- Target the 9 municipalities with poverty level percentages higher than the Gloucester County average poverty level of 6.2% – Elk, Glassboro, National Park, Newfield, Paulsboro, South Harrison, Swedesboro, Westville, and Woodbury City – for more aggressive cancer education and screening outreach. In the key informant interviews carried out during the preparation of the Cancer Capacity and Needs Assessment, it was the opinion of healthcare providers that cancer screening was less likely to be accessed in low-income communities due to non-insurance or lack of knowledge of available resources.
- The Gloucester County NJCEED program, which reaches out to men and women who are uninsured or underinsured for healthcare and have incomes below 250% of poverty level, needs to be fully funded to reach the entire eligible population.
- Plan an intervention to inform and update primary healthcare providers and the cancer centers in the county about the services of NJCEED. (AC-1.1-2, AC-3.1, AC-4.1-3).

General Awareness and Education for Cancer

- Work with the cancer coalitions in the county and the American Cancer Society South Jersey Cancer Coalition to explore effective interventions (e.g. public mass media campaigns) on the issues of cancer prevention, cancer screening, and early detection for the top four cancers of prostate cancer in men, breast cancer in women, colorectal cancer,

and lung cancer and eventually for all seven prioritized cancers of the NJ-CCCP. (AC-2.1, BR-1.2-3, CO-1.1-3, LU-1.1, PR-1.1, PA-1.1)

- Increase programming for seniors in Monroe Township and Deptford Township. These two municipalities have the highest population of seniors aged 65 and older. Aging raises the risk for many types of cancer, so cancer outreach and education programming needs to be increased in these townships to accommodate this population using the *Healthy New Jersey 2010* objectives and targets.

Further Research

- The local health coalitions and NJCEED Programs should continue with the statewide process of defining the implementation of the NJ-CCCP by helping to conduct research on primary care providers' practice of cancer awareness, education, screening, detection, treatment, post treatment support, palliative care, and end-of-life care. (AC-4.1-3, BR-2.1-2, BR-3.1, CO-1.3, CO-2.1, LU-2.1-2, PR-4.1, PA-1.1)
- The CRDNJ process for collecting cancer resource information at the county level needs to be continued, expanded, and updated in an ongoing manner. (IM-1.1)

Recommendations for Research-tested Intervention Programs

- Although proven interventions that modify behavior about cancer awareness, prevention, and screening exist, there are few evidence-based cancer prevention or educational programs implemented in Gloucester County. (AC-1.1-2, AC-2.1, AC-4.1-3)
- All health coalitions and institutions should select successful research-based programs as the basis for intervention programs that address the top four cancers (prostate, breast, lung, and colorectal) and/or the other three priority cancers of the NJ-CCCP (melanoma, cervical cancer, and oral cancers).
- The pilot testing and research previously recommended as a county/local priority would yield new baseline information about residents' and primary care providers' cancer awareness, prevention, and screening behavior/practice. The effectiveness of the chosen intervention programs could then be evaluated against this baseline information. If the chosen evidence-based program for cancer outreach does not produce the desired outcome – an increase in enrollment in NJCEED screening programs or an increase in screening rates in primary care practices, for example – then there should be a periodic evaluation and change in the chosen strategy or program. (AC-4.3, NP-2.1-2, BR-3.1-2, CO-1.3, LU-2.1, LU-3.1, LU-4.1, LU-5.1, LU-6.1, PR-3.1, PR-4.1-2, PR-5.1-3, ET-1.1-2, ET-2.1-2, ET-3.1, ET-4.1-5, IM-1.4, EV-1.1 at the county level)

Recommendations for Statewide Priorities

Recommendation 1 – Evaluation and Development of a Model NJCEED Program. We recommend that the NJDHSS Office of Cancer Control and Prevention support evaluation of the experience of the county NJCEED programs. The Gloucester County report findings suggest that

a statewide evaluation of this federal/state NJCEED funding model would support expansion of funding by state and federal agencies and would enable implementation of the following NJ-CCCP strategies: AC-1.1-2, AD-1.1-2, AD-2.1-2.

- a. Development of “best practices” from strategies of the county NJCEED programs, e.g., those that help to narrow gaps in services due to health disparities and inequalities; those with increased registration; those that attracted men for prostate screening. (AC-1, AC-4)
- b. Advocate for maintaining or increasing level of financial support for NJCEED programs, especially for provision of education, awareness, and screening within vulnerable populations and areas of poverty. (AD-1)
- c. Development of a “toolkit” of county-level resources and evidence-based interventions for NJCEED programs. (AC-4.1)

Recommendation 2 – Development of an Advocacy Plan with Other Healthcare Coalitions.

We recommend that the NJDHSS Office of Cancer Control and Prevention as well as the NJ-CCCP Task Force continue to build advocacy partnerships among like-minded groups, to work toward implementation of a national program that works to increase insurance coverage for all Americans. This national effort would specifically include cancer prevention, cancer screening, early detection, and complete treatment and after care. (AD-1.1-2, AD-2.1-3, AD-3.1, IM-1.2)

Closing Remarks

The Cancer Capacity and Needs Assessment provides a detailed baseline assessment for Gloucester County. The data, interpretations, and recommendations in this report were developed to provide a wide array of public health and medical personnel with standardized information and detailed analyses that can help guide and focus their efforts at the county level, including such local health initiatives as the forthcoming Community Health Improvement Plans. The reports from all of the counties will collectively inform the continuing comprehensive cancer control efforts of the Office of Cancer Control and Prevention of the New Jersey Department of Health and Senior Services, the Governor’s Task Force on Cancer Prevention, Early Detection and Treatment in New Jersey, and the University of Medicine and Dentistry of New Jersey.

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